# Summary pdf file on:
# Lectures on Heat Transfer
# by
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**Introduction**

These lecture notes on Heat Transfer have been compiled from my classroom presentations to Engineering students during my teaching career. The material is organized in a systematic manner, covering almost all the topics normally taught in a full university course on Heat Transfer.

The collection includes:

Conduction in one and multiple dimensions, with and without heat generation.

Convection – natural and forced – supported with Mathcad functions and fluid property data.

Phase change heat transfer – boiling and condensation correlations.

Thermal radiation – fundamental laws, view factors, and gray surface energy exchange.

Numerical methods for both steady-state and transient heat conduction problems.

Special topics such as heat transfer from extended surfaces (fins).

Wherever possible, Mathcad functions have been used to demonstrate calculations, enabling students and teachers to directly apply the formulas to practical problems. The material is concise, self-explanatory, and suitable for quick reference.

This compilation is intended to serve as a free academic resource for students, teachers, and practicing engineers who wish to strengthen their understanding of Heat Transfer.

Dr. M. Thirumaleshwar
October 3, 2025

1.Mathcad Functions for conduction heat transfer calculations.pdf

https://app.box.com/s/u59rlltlg8d8wjlyucrqfc6e6oxt76yj

2.Mathcad Functions for Natural or free convection calculations.pdf

https://app.box.com/s/zt8xkl7y1icgpvwcvz0gw0npwx8wfjtc

3.Mathcad Functions for forced convection heat transfer calculations.pdf

https://app.box.com/s/2a60d9i1iyq548y5o8lm3nwyq570bkn5

4.Mathcad Functions for Fluid properties - for convection heat transfer.pdf

https://app.box.com/s/w3xcgpoyqasyum6p4a7viez7m7adapcx

5.Mathcad Functions for Boiling heat transfer.pdf

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6.Mathcad Functions for condensation heat transfer.pdff

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7. Thermal Radiation - I…Basic properties and Laws.pdf

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8.Thermal Radiation - II…View factors.pdf

https://app.box.com/s/pfd3gixifi9tfhlyeu7zna88bymwr8n1

9. Thermal Radiation - III..energy exchange between gray surfaces.pdf

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10. Steady state heat transfer in multiple dimensions.pdf

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11. Numerical methods - transient heat conduction.pdf
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12.Numerical methods- steady state - 1D and 2D..Part 1.pdf

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13.Numerical methods - steady state - 1D and 2D..Part 2.pdf

https://app.box.com/s/iwxib656j2v2owmx3ctxd0b9ei9u6xdh

14.Heat transfer from Extended surfaces (or Fins).pdf

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15. Transient heat conduction - Part 1.pdf

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16.Transient heat conduction …Part 2.pdf

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17. One dim conduction with heat generation..pdf

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18. Lectures on Heat Transfer…Introduction…Fundamentals.pdf

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19.One dim conduction with no heat generation.pff

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